CLMPTO

C. DESSAU

11/10/04

CLAIMS 1-16 HAVE BEEN CANCELLED

17. A tumor cell composition comprising a tumor cell modified to express a B7-2 protein and at least one additional immune modulator, or a functional fragment of said B7-2 protein or said immune modulator.

18. The tumor cell composition according to claim 17, wherein said at least one additional immune modulator is a cytokine protein.

19. The tumor cell composition according to claim 18, wherein said cytokine protein is selected from the group consisting of interleukin 2, interleukin 4, interleukin 6, interleukin 7, interleukin 12, granulocyte-macrophage colony stimulating factor, granulocyte colony stimulating factor, interferon-gamma, and tumor necrosis factor-alpha.

20. The tumor cell composition according to claim 18, wherein said cytokine protein is granulocyte-macrophage colony stimulating factor.

21. An expression vector comprising a polynucleotide sequence encoding a B7-2 protein and at least one additional immune modulating protein, or a functional fragment of said B7-2 protein or said immune modulator.

22. The expression vector according to claim 21, wherein said at least one additional immune modulating protein is a cytokine protein.

23. The expression vector according to claim 22, wherein said cytokine protein is selected from the group consisting of interleukin 2, interleukin 4, interleukin 6, interleukin 7, interleukin 12, granulocyte-macrophage colony stimulating factor, granulocyte colony stimulating factor, interferon-gamma, and tumor necrosis factor-alpha.

24. The expression vector according to claim 22, wherein said cytokine protein is granulocyte-macrophage colony stimulating factor.

25. The expression vector according to claim 21, wherein said expression vector is a viral vector.

26. The expression vector according to claim 25, wherein said viral vector is a retroviral vector.

27. The expression vector according to claim 25, wherein said viral vector is an adenoviral vector.

28. The expression vector according to claim 21, wherein said expression vector is encapsulated by, or complexed with, a liposome.

29. A method for the treatment or prevention of cancer comprising:

a) providing a polynucleotide encoding a B7-2 protein and at least one additional immune modulator, or a functional fragment of said B7-2 protein or said immune modulator;

b) transferring said polynucleotide into cancer cells under conditions such that said B7-2 protein and said immune modulator are expressed by at least a portion of said cancer cells; and

c) administering an effective amount of the modified cancer cells of step b) to a patient.

30. The method according to claim 29 further comprising irradiating said cancer cells expressing said B7-2 protein and said immune modulator prior to administering said irradiated cancer cells into said patient.

31. The method according to claim 30, further comprising introducing at least one additional dose of irradiated cancer cells expressing said B7-2 protein and said immune modulator into said immunized subject.

32. The method according to claim 29, wherein said at least one additional immune modulator is a cytokine protein.

33. The method according to claim 32, wherein said cytokine protein is selected from the group consisting of interleukin 2, interleukin 4, interleukin 6, interleukin 7, interleukin 12, granulocyte-macrophage colony stimulating factor, granulocyte colony stimulating factor, interferon-gamma, and tumor necrosis factor-alpha.

34. The method according to claim 32, wherein said cytokine protein is granulocyte-macrophage colony stimulating factor.

35. The method according to claim 29, wherein said polynucleotide is transferred by a viral vector.

36. The method according to claim 35, wherein said viral vector is a retroviral vector.

37. The method according to claim 35, wherein said viral vector is an adenoviral vector.

38. The method according to claim 29, wherein said polynucleotide is encapsulated by, or complexed with, a liposome.

39. The method according to claim 29, wherein said cancer cells are from a solid tumor.

40. The method according to claim 29, wherein said cancer cells are from a brain tumor.

41. The method according to claim 40, wherein said brain tumor is a glioblastoma.

42. The method according to claim 29, wherein said cancer cells are from a melanoma.

43. A method for the treatment or prevention of cancer comprising administering to a subject in need thereof an effective amount of a tumor vaccine comprising a tumor cell modified to express a B7-2 protein and at least one additional immune modulator, or a functional fragment of said B7-2 protein or said immune modulator.

44. The method according to claim 43, wherein said at least one additional immune modulator is a cytokine protein.

45. The method according to claim 44, wherein said cytokine protein is selected from the group consisting of interleukin 2, interleukin 4, interleukin 6, interleukin 7, interleukin 12, granulocyte-macrophage colony stimulating factor, granulocyte colony stimulating factor, interferon-gamma, and tumor necrosis factor-alpha.

46. The method according to claim 43, wherein said cytokine protein is granulocyte-macrophage colony stimulating factor.

47. The method according to claim 43, wherein said cancer cells are from a tumor.

48. The method according to claim 43, wherein said cancer cells are from a brain tumor.

49. The method according to claim 48, wherein said brain tumor is a glioblastoma.

50. The method according to claim 43, wherein said cancer cells are from a melanoma.